IN THE CLAIMS:

Please amend Claim 7, as follows.

1. (Original) A reflection mirror apparatus in an exposure apparatus, constructing a reflection optical system to guide exposure light by reflection, said reflection mirror apparatus comprising:

a mirror having a reflection surface that reflects said exposure light;

a radiation plate for radiation-cooling, provided away from an outer surface of said mirror, that ensures a passage area for said exposure light incident on and reflected from said reflection surface; and

a temperature control mechanism for temperature control of said radiation plate.

2. (Original) The reflection mirror apparatus according to claim 1, wherein temperature of said radiation plate is controlled based on detection information from temperature detection means installed at said mirror.

3. (Original) The reflection mirror apparatus according to claim 1, wherein said radiation plate is separated and provided in plural positions.

4. (Original) The reflection mirror apparatus according to claim 3, wherein said passage area is formed between said separated plural radiation plates.

5. (Original) The reflection mirror apparatus according to claim 3, wherein said radiation plate is separated for the reflection surface of said mirror and an outer surface other than said reflection surface.

6. (Original) The reflection mirror apparatus according to claim 3, wherein said separated plural radiation plates respectively have a form along a form of the outer surface of said mirror, and provided in positions away from said mirror by an approximately predetermined distance.

7. (Currently Amended) The reflection mirror apparatus according to ~~any one of claims 3 to 5~~ claim 3, wherein said temperature control mechanism individually performs temperature control on said separated plural radiation plates.

8. (Original) The reflection mirror apparatus according to claim 1, wherein said temperature control mechanism performs temperature control of said radiation plate by circulating cooling liquid or cooling gas.

9. (Original) The reflection mirror apparatus according to claim 8, wherein said temperature control mechanism includes:

a first thermometer that measures a temperature of said mirror;

a second thermometer that measures a temperature of said cooling liquid;

light amount estimation means for estimating an amount of the exposure light incident on said mirror based on light emission control information for said exposure light; and

a temperature controller that controls the temperature of said cooling liquid or cooling gas based on temperature information obtained by said first thermometer and said second thermometer and the amount of the exposure light estimated by light amount estimation means.

10. (Original) The reflection mirror apparatus according to claim 9, wherein said first thermometer is a radiation thermometer provided away from said mirror by a predetermined distance.

11. (Original) The reflection mirror apparatus according to claim 1, wherein said temperature control mechanism includes:

a solid cooling element attached to said radiation plate; and

a circulation mechanism that circulates cooling liquid or cooling gas so as to cool said solid cooling element.

12. (Original) The reflection mirror apparatus according to claim 1, further comprising:

a mirror barrel that accommodates said mirror;

a mirror support member, fixed to said mirror barrel, that holds said mirror in a predetermined position in said mirror barrel; and

a radiation plate support member, fixed to said mirror barrel, that holds said radiation plate in a predetermined positon to said mirror.

13. (Original) The reflection mirror apparatus according to claim 1, further comprising:

a mirror barrel that accommodates said mirror;

a mirror support member, fixed to said mirror barrel, that holds said mirror in a predetermined position in said mirror barrel; and

a radiation plate support member, fixed to a support base separated from said mirror barrel, that holds said radiation plate in a predetermined position to said mirror.

14. (Original) An exposure apparatus for transferring a pattern on an original plate onto a wafer by guiding exposure light by a reflection optical system,

wherein a reflection mirror provided in said reflection optical system comprises the reflection mirror apparatus according to claim 1.

15. (Original) The exposure apparatus according to claim 14, wherein said reflection optical system is any one of a reflection optical system of a light source unit to generate an exposure light, an illumination optical system to guide said exposure light to the original plate and a projection optical system to project reflection light from said original plate to the wafer.

16. (Original) A device fabrication method of forming a circuit pattern on a semiconductor substrate by using the exposure apparatus according to claim 14.